

**WHAT IS CLAIMED IS:**

Sub 5 1. A method of treating an auto-immune disease in an animal comprising the step of orally administering a type one interferon to said animal such that the type one interferon is ingested after oral administration.

Sub 10 2. The method of claim 1, wherein said interferon is selected from alpha-interferon and beta-interferon.

15 3. The method of claim 2, wherein said interferon is selected from the group consisting of human recombinant interferon, rat interferon and murine interferon.

20 4. The method of claim 2, wherein said interferon is administered in a dosage of from about 50 I.U./kg to about 25,000 I.U./kg.

Sub 25 5. The method of claim 1, wherein said interferon is administered every other day.

6 The method of claim 1, wherein said animal is a  
human.

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7 The method of claim 1, wherein said auto-immune  
disease is selected from the group consisting of multiple sclerosis,  
rheumatoid arthritis, diabetes mellitus, psoriasis, organ-specific auto-  
immune diseases, chronic inflammatory demyelinating  
10 polyradiculoneuropathy and Guillain-Barre syndrome.

8. A method of decreasing the severity or frequency  
of a relapse of multiple sclerosis in a human comprising the step of  
orally administering a type one interferon to said animal such that  
the type one interferon is ingested after oral administration.

Sub  
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9. The method of claim 8, wherein said interferon is  
selected from alpha-interferon and beta-interferon.

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10. The method of claim 8, wherein said interferon is  
selected from the group consisting of human recombinant interferon,  
25 rat interferon and murine interferon.

11. The method of claim 8, wherein said interferon is administered in a dosage of from about 5 I.U./kg to about 50,000 I.U./kg.

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12. The method of claim 8, wherein said interferon is administered every other day.

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13. A method of reducing inflammation associated with an auto-immune disease in an animal comprising the step of orally administering a type one interferon to said animal such that the type one interferon is ingested after oral administration.

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14. The method of claim 13, wherein said interferon is selected from alpha-interferon and beta-interferon.

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15. The method of claim 13, wherein said interferon is selected from the group consisting of human recombinant interferon, rat interferon and murine interferon.

16. The method of claim 15, wherein said interferon is administered in a dosage of from about 50 I.U./kg to about 25,000 I.U./kg.

5 17. The method of claim 13, wherein said animal is a human.

10 18. The method of claim 13, wherein said auto-immune disease is selected from the group consisting of multiple sclerosis, rheumatoid arthritis, diabetes mellitus, psoriasis, organ-specific auto-immune diseases, chronic inflammatory demyelinating polyradiculoneuropathy and Guillain-Barré syndrome.

15 19. A method of decreasing the levels of a cytokine in an individual having multiple sclerosis, comprising the step of orally administering a type one interferon to said individual, wherein said cytokine is selected from the group consisting of TGF- $\beta$ , IL-2, IL-10, IFN- $\gamma$  and ICAM-1.

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25 20. The method of claim 19, wherein said interferon is administered in a dosage of from about 166 I.U./kg to about 500 I.U./kg.